NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Canyon General Improvement District (GID)
400 Canyon Way
Sparks, NV 89434

Permit Number: NEV50028

Treatment Plant (Lockwood Exit/I-80 on south side of Truckee River)
East End Avenue de la Coulers (Storey County)
Latitude: 39° 30' 40"N, Longitude: 119° 38' 14"W
Township 19N, Range 21E, Sections 16 & 17

General: Canyon GID is a residential development located at the Lockwood/I-80 interchange on the south side of the Truckee River in Storey County. The treatment plant services a customer base of approximately 285 connections (870 residents) and seven commercial buildings (warehouses). The plant was constructed in 1985. Influent is predominantly domestic and is treated to secondary-treatment standards with denitrification, in a 0.10 million gallon per day (MGD) (100,000 gallons per day) package plant manufactured by Davco. The Davco plant was modified in 2003 by SPB Utilities (Canyon GID certified operator) from its original extended aeration/return activated sludge (RAS) operation to on/off aeration to achieve nitrification/denitrification. Raw influent flows via gravity to the headworks which consist of a bar screen. The wastewater then flows through four digestion chambers with on/off aeration for nitrification/denitrification and then to the clarifier. From the clarifier, the effluent is pumped to a series of three 1,500 gallon (4,500 gallons total) septic tanks where settling of solids occurs and then to the wet well/lift station. Flow is calculated at the lift station using pumping time. The final effluent is pumped alternatively to three leach lines (one from the old field and two from the new field). At all times one of the leach lines from the new field is out of service, i.e., resting. Approximately on a weekly schedule, sludge is pumped from the septic tanks and taken to the Truckee Meadows Water Reclamation Facility (TMWRF), located in Sparks, Nevada for further processing. The treatment facility is fenced and posted. The leach fields are located outside the fence and must be adequately posted to alert any vehicular and pedestrian traffic. The treatment and disposal facilities are bordered on the east by farmhouses and farm fields. Canyon GID intends to install a new treatment plant when funding becomes available. Plans for the new plant must be submitted to and approved by NDEP prior to any construction.

Receiving Water Characteristics: The receiving water body for treated effluent is groundwater via sub-surface percolation in leach fields. Average depth to groundwater in the five existing monitoring wells is 20 feet (range 17 to 25 feet) below ground surface. Groundwater flows in a northeast direction toward the Truckee River. The local groundwater at the Canyon GID

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development is of suitable quality as a drinking water supply source. The northern boundary of the treatment plant is located approximately 100 feet from the Truckee River. However, the facility is located on an embankment of construction fill material such that the treatment works were not breached by high waters during the Truckee River flooding in 1997. Flooding in 2006, from Lagomarsino Canyon (Long Valley Creek) did however breach the treatment works. The flood water was subsequently pumped into the leachfield. Additional protection from flooding is needed to prevent such occurrences in the future.

Flow: The design capacity of this treatment plant is 0.1 MGD, which is used to set the flow limits for this treatment plant. Upon reaching 85% of treatment design capacity (e.g., 0.085 MGD), the permit conditions require the Permittee to notify the Division. Presently, the 30-day average flow into this facility is 0.064 MGD (January 2005 through September 2006).

Effluent Discharge Characteristics:

Flow[1] (30-day average): 0.064 MGD
BOD_5[2] (30-day average): 8.83 mg/L
BOD_5[1] (maximum): 30 mg/L
TSS[2] (30-day average): 15.50 mg/L
TSS[1,3] (maximum): 70 mg/L
pH[1] (30-day average): 7.4 S.U.
Ammonia as N[1] (30-day average): 0.55 mg/L
Nitrate as N[1] (maximum) 8.2 mg/L
TDS[1] (quarterly average): 814 mg/L
Chloride[1] (quarterly average): 94 mg/L

[1]: January 2005 to September 2006
[2]: January 2005 to May 2005
[3]: TSS limitation was exceeded in May, June and July 2006 (47 mg/L, 58 mg/L and 70 mg/L respectively)

Effluent Limitations and Special Conditions:

Table 1 - Plant Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow, MGD	0.1	0.1	Continuous	Pump Timer
BOD_5, mg/L	30	45	Twice/Month	Composite
TSS, mg/L	30	45	Twice/Month	Composite
pH, Standard Units	Between 6.0 to 9.0		Twice/Month	Discrete
Nitrate (as N), mg/L	Monitor & Report		Twice/Month	Composite

Total Nitrogen, mg/L	10.0	Twice/Month	Composite
TDS, mg/L	Monitor & Report	Quarterly	Composite
Chlorides, mg/L	Monitor & Report	Quarterly	Composite

Table 2 - Groundwater Characteristics at Monitoring Wells (MW-1, MW-2, MW-3, MW-5, MW-6)

Parameter	Groundwater Values[1]
TDS	496 mg/L
Nitrate	1.94 mg/L
Chloride	51 mg/L
Depth to Groundwater	20 feet

[1]: January 2005 to September 2006. Average values for all monitoring wells combined

Table 3 – Groundwater Monitoring (MW-1, MW-2, MW-3, MW-5, MW-6)

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30 - Day Average	Daily Maximum	Measurement Frequency	Sample Type
TDS, mg/L	Monitor & Report		Quarterly	Discrete
Chlorides, mg/L	Monitor & Report		Quarterly	Discrete
Nitrate as N, mg/L	Monitor & Report		Quarterly	Discrete
Total Nitrogen, mg/L	10.0 mg/L		Quarterly	Discrete
Depth to Groundwater (feet)	Monitor & Report		Quarterly	Field Measurement
Leachfield Piezometers (visual indication of standing effluent level)	Monitor & Report		Monthly	Field Observation

Schedule of Compliance:

- Within thirty (30) days of the permit issuance date (**Month XX, 2007**), the Permittee shall submit an updated Operations and Maintenance (O&M) Manual for Division review and approval. The Division requires that the Permittee include a discussion on effluent denitrification practices and the use of the septic tanks as settling chambers in this manual.

- Within thirty (30) days of the permit issuance date (**Month XX, 2007**), the Permittee shall provide written notification to the Division that the leachfields have been posted and that appropriate barriers to unauthorized vehicular access have been implemented.

- Within one hundred eighty days (180) of the permit issuance date (**Month XX, 2007**) the Permittee shall submit plans and or procedures for the protection of the plant from flood waters.

Rationale for Permit Requirements: The Division's rationale for the proposed monitoring conditions is as follows:

- *Flow*: The design capacity of this treatment plant is 0.1 MGD. The Permittee shall provide written notification to the Division when the 30-day average flow in any month equals or exceeds 85% (0.085 MGD) of this value per the permit conditions.

- *BOD_5 & TSS*: The Division's BOD_5 and TSS requirements for secondary-treated effluent are 30/45 mg/L for the 30-day average/daily maximum values.

- *Total Nitrogen (TN)*: Division review of the facility's Discharge Monitoring Reports (DMR's) and discussions with the lead operator indicate that the effluent can consistently meet a TN limit of 10.0 mg/L. The Division considers it prudent that this limit be retained to alleviate concerns of impacts to the neighboring domestic wells at the bordering farmhouses, located immediately to the east of the Canyon GID property.

- *pH*: The Division requires the effluent to meet a pH limitation of within 6.0 to 9.0 standard units

- *Groundwater Nitrate*: The drinking water limit for nitrate is 10.0 mg/L. The Division's standard groundwater permit language requires the Permittee to investigate groundwater nitrate levels beginning at a target value of 7.0 mg/L. This action level is established in consideration of the nearby proximity of this treatment plant and effluent disposal area to domestic well supplies and the Truckee River.

Procedures for Public Comment: The Notice of the Division's intent to issue (renew) a permit authorizing the facility to discharge secondary treated effluent, with nitrification/denitrification,

into the groundwater via leachfield percolation, subject to the conditions contained within the permit is being sent to the **Comstock Chronicle** and **Reno Gazette-Journal** newspapers for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline date at the Division for receipt of all comments pertaining to this public notice period is **April 16, 2007 at 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to issue (renew) the proposed groundwater discharge permit for a period of five (5) years.

Prepared by: Jim Hogan
Staff Engineer II
March 6, 2007